

PROPOSED NEW CLAIMS

~~19.~~ An amplitude modulation receiver for receiving an input signal and generating a corresponding demodulated signal, comprising: a transistor biased to be simultaneously operable as a reflection amplifier for reflectively amplifying the input signal, and as a detector for detecting an amplified input signal to generate the demodulated signal.

20. The receiver according to claim 19, wherein the transistor is operative in a non-linear region of its current/voltage transfer characteristic.

21. The receiver according to claim 20, wherein the transistor is operable to conduct a current therethrough in a range of 5 μ A to 110 μ A to function in said non-linear region.

22. The receiver according to claim 19, wherein the transistor incorporates an electrode for receiving the input signal, the electrode being connected through a signal path to a signal earth such that the path is operable for conveying reflected signals between the transistor and the signal earth, and for diverting the input signal to the electrode.

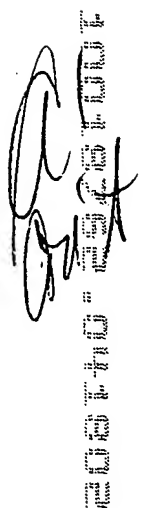
23. The receiver according to claim 19, and an antenna assembly for receiving input radiation and generating therefrom the input signal for the transistor.

24. The receiver according to claim 19, wherein the receiver has a gain which is responsive to a magnitude of the input signal, thereby providing the receiver with an automatic gain control characteristic.

~~25.~~ A frequency modulation (FM) receiver, comprising: an amplitude modulation (AM) receiver for receiving an input signal and generating a corresponding demodulated signal, including a transistor biased to be simultaneously operable as a reflection amplifier for reflectively amplifying the input signal, and as a detector for detecting an amplified input signal to generate the

demodulated signal; and converting means for converting an input frequency modulated signal applied thereto into a corresponding amplitude modulated signal, the AM receiver being operable for demodulating the amplitude modulated signal to provide a demodulated output signal.

26. The receiver according to claim 25, wherein the converting means comprises a bandpass filter operable off resonance for converting the frequency modulated signal into the corresponding amplitude modulated signal.

27. A global positioning satellite (GPS) receiver, comprising: a modulation receiver for receiving an input signal and generating a corresponding demodulated signal, including a transistor biased to be simultaneously operable as a reflection amplifier for reflectively amplifying the input signal, and as a detector for detecting an amplified input signal to generate the demodulated signal; receiving means for receiving input radiation and for generating a corresponding received signal; and processing means for filtering, amplifying and gating the received signal to provide input signals for the modulation receiver to demodulate to provide demodulated signals from which a positional reference for the GPS receiver is derivable.

28. The receiver according to claim 27, wherein the receiving means is a circularly polarized antenna.

29. The receiver according to claim 27, wherein the processing means incorporates reflection amplifiers for amplifying and gating the received signal for generating processed signals.

30. The receiver according to claim 27, wherein the processing means incorporates magnetostatic filtering and frequency selective limiting means for processing the received signal.

31. An identification tag, comprising: a modulation receiver for receiving an input signal and generating a corresponding demodulated signal, including a transistor biased to be simultaneously operable as a reflection amplifier for reflectively amplifying the input signal, and as a detector for detecting an amplified input signal to generate the demodulated signal, the modulation receiver being operable to be responsive to radio radiation received thereat.

32. A wireless local area network for interconnecting computers, the network comprising: a modulation receiver for receiving an input signal and generating a corresponding demodulated signal, including a transistor biased to be simultaneously operable as a reflection amplifier for reflectively amplifying the input signal, and as a detector for detecting an amplified input signal to generate the demodulated signal, the modulation receiver being operative for performing demodulation of signals within the network.

33. A mobile telephone, comprising: a modulation receiver for receiving an input signal and generating a corresponding demodulated signal, including a transistor biased to be simultaneously operable as a reflection amplifier for reflectively amplifying the input signal, and as a detector for detecting an amplified input signal to generate the demodulated signal, the modulation receiver being operable to provide demodulation of signals propagating therein.

34. An electronic security key, comprising: a modulation receiver for receiving an input signal and generating a corresponding demodulated signal, including a transistor biased to be simultaneously operable as a reflection amplifier for reflectively amplifying the input signal, and as a detector for detecting an amplified input signal to generate the demodulated signal, the modulation receiver being operative for performing demodulation of signals propagating therein.

35. The key according to claim 34, wherein the receiver is housed within a key fob.

~~36.~~ A method of amplitude demodulating an input signal; the method comprising the simultaneously executable steps of:

- a) biasing a transistor to be simultaneously operable as a reflection amplifier and as a detector;
- b) receiving the input signal and reflectively amplifying the input signal in the transistor operating as the reflection amplifier to generate an amplified input signal; and
- c) passing the amplified input signal through the transistor operating as the detector in a non-linear mode to demodulate the amplified input signal and thereby generate a corresponding demodulated signal.